1. (Previously presented) A method of acquiring chemical information with a mass spectrometer having (i) a first ionization source of a first type for creating ions, (ii) a second ionization source of a second type different from the first type for creating ions, (iii) a first detector for detecting ions, and (iv) a second detector for detecting ions, comprising:

(a) simultaneously sampling ions created by said first ionization source and said second ionization source so as to produce a first ion sample and a second ion sample; and

(b) simultaneously detecting ions from said first ion sample with said first detector and ions from said second ion sample with said second ion detector.

2. (Currently amended) A time-of-flight mass spectrometer including apparatus for coupling at least two different ion streams simultaneously to the time-of-flight mass spectrometer from at least two different types of ion sources.

3. (Cancelled)

4. (Currently amended) The apparatus of claim ~~3~~ 2 wherein one of the at least two different types of ion sources comprises an electrospray ionization source.

5. (Previously presented) The apparatus of claim 4 wherein one of the at least two different types of ion sources comprises an inductively coupled plasma source.

6-8. (Cancelled)

9. (Currently amended) The apparatus of claim ~~8~~ 2 wherein one of the at least two different types of ion sources comprises an electron-impact ionization apparatus.

10. (Previously presented) The apparatus of claim 2 wherein one of the at least two different types of ion sources comprises an inductively coupled plasma source.

11. (Previously presented) The apparatus of claim 10 wherein one of the at least two different types of ion sources comprises an electron-impact ionization apparatus.

12. (Previously presented) The apparatus of claim 2 wherein one of the at least two different types of ion sources comprises an electron-impact ionization apparatus.

13. (Cancelled)

14. (Previously presented) The apparatus of claim 2 wherein one of the at least two different types of ion sources comprises a matrix-assisted laser desorption

ionization apparatus.

15. (Cancelled)

16. (Currently amended) A method of operating a time-of-flight mass spectrometer including providing at least two different types of ion sources, and coupling ion streams simultaneously from the at least two different types of ion sources to the time-of-flight mass spectrometer.

17-19. (Cancelled)

20. (Previously presented) The method of claim 16 wherein providing at least two different types of ion sources comprises providing an electrospray ionization source.

21. (Previously presented) The method of claim 20 wherein providing at least two different types of ion sources comprises providing an inductively coupled plasma source.

22-23. (Cancelled)

24. (Previously presented) The method of claim 16 wherein providing at least two different types of ion sources comprises providing an inductively coupled plasma source.

25. (Previously presented) The method of claim 24 wherein providing at least two different types of ion sources comprises providing an electron-impact ionization apparatus.

26. (Previously presented) The method of claim 16 wherein providing at least two different types of ion sources comprises providing an electron-impact ionization apparatus.

27. (Cancelled)

28. (Currently amended) The method of claim ~~14~~ 16 wherein providing at least two different types of ion sources comprises providing a matrix-assisted laser desorption ionization apparatus.

29. (Currently amended) The method of claim ~~15~~ 20 wherein providing at least two different types of ion sources comprises providing a matrix-assisted laser desorption ionization apparatus.

30. (Currently amended) A method of operating a time-of-flight mass spectrometer including providing at least two different types of ion sources, first coupling an ion stream from a first one of said ion sources of a first type into the time-of-flight mass spectrometer, next coupling an ion stream from a second one of said ion sources of a second

type different from the first type into the time-of-flight mass spectrometer, next coupling an ion stream from the second one of said ion sources into the time-of-flight mass spectrometer, next coupling an ion stream from the first one of said ion sources into the time-of-flight mass spectrometer, developing mass spectra from the coupling of ion streams from said second one of said ion sources into the time-of-flight mass spectrometer while coupling an ion stream from said first one of said ion sources into the time-of-flight mass spectrometer and developing mass spectra from the coupling of ion streams from said first one of said ion sources into the time-of-flight mass spectrometer while coupling an ion stream from said second one of said ion sources into the time-of-flight mass spectrometer.

31-32. (Cancelled)

33. (Currently amended) The method of claim 30 wherein coupling an ion stream from the first one of said ion sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an electrospray ionization source into the time-of-flight mass spectrometer.

34. (Currently amended) The method of claim 33 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an inductively coupled plasma source into the time-of-flight mass spectrometer.

35-37. (Cancelled)

38. (New) The method of claim 33 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from a matrix-assisted laser desorption ionization apparatus into the time-of-flight mass spectrometer.

39. (New) The method of claim 33 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an electron-impact ionization apparatus into the time-of-flight mass spectrometer.

40. (New) The method of claim 30 wherein coupling an ion stream from the first one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an inductively coupled plasma source into the time-of-flight mass spectrometer.

41. (New) The method of claim 40 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from a matrix-assisted laser desorption ionization apparatus into the

time-of-flight mass spectrometer.

42. (New) The method of claim 40 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an electron-impact ionization apparatus into the time-of-flight mass spectrometer.

43. (New) The method of claim 30 wherein coupling an ion stream from the first one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from a matrix-assisted laser desorption ionization apparatus into the time-of-flight mass spectrometer.

44. (New) The method of claim 43 wherein coupling an ion stream from the second one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an electron-impact ionization apparatus into the time-of-flight mass spectrometer.

45. (New) The method of claim 30 wherein coupling an ion stream from the first one of said ions sources into the time-of-flight mass spectrometer comprises coupling an ion stream from an electron-impact ionization apparatus into the time-of-flight mass spectrometer.